

REMARKS

INTRODUCTION:

As set forth in the preceding section, no claims have been added, amended or cancelled in this response.

Claims 1-16 and 18 are pending and under consideration. Claims 1, 2, 10, and 18 are independent claims. Reconsideration of the claims in light of the present amendments and the following remarks is respectfully requested.

ALLOWABLE SUBJECT MATTER:

Claims 8 and 16 are objected to but are indicated as allowable if rewritten in independent form. Applicants will hold the rewriting of these claims in abeyance until the arguments presented herein have been considered.

REJECTIONS UNDER 35 USC § 103:

Claims 1, 2, 3, 5, 6 and 9 stand rejected under 35 U.S.C. 103(a) as being obvious over U.S. Patent No. 7,054,169 to Huh et al. ("Huh") in view of U.S. Patent Application No. 2003/0214822 by Malik et al. ("Malik") and further in view of U.S. Patent No. 3,924,172 to Gregorich ("Gregorich"). Claims 2, 4, 7, 10, 11, 12, 13, 15 and 18 stand rejected under 35 U.S.C. 103(a) as being obvious over U.S. Patent No. 5,961,647 to Kim et al. ("Kim") in view of Gregorich. The rejections are respectfully traversed.

Independent claim 2 recites at least the following:

a power switching unit including a pulse width modulation-integrated circuit (PWM-IC) having an input driven by the AC power and being switched on and off to control provision of the DC power to the electronic machine when the host requests provision of DC power to the electronic machine;

Kim, Gregorich, Huh and Malik taken separately or in combination, fail to suggest or disclose all of the above-recited features of independent claim 2.

The Office Action notes on page 7, last paragraph, that Kim "teaches the PWM-IC powered from the output of the DC rectifier and not from the AC power source."

However, the Office Action proposed to modify Kim with Gregorich, asserting that Gregorich “teaches a power supply system in which the integrated pulse circuitry is powered via the AC input lines and the AC power is converted in DC within the integrated circuit (via 45, figure 2 and see “control pulse circuitry (7), figure 1.” The Office Action therefore asserts that Gregorich illustrates and describes a PWM-IC, at control pulse circuitry 7 of FIG. 1.

Applicants respectfully disagree with the Office Action conclusion and assert that control pulse circuitry 7 of FIG. 1 fails to suggest a PWM-IC. A PWM-IC is an integrated circuit that generates adjustable frequency, pulse-width-modulated, control pulses that drive the power transistors of switching regulator power supplies. To the contrary, control pulse circuitry 7 is not even an integrated circuit.

Gregorich is directed to a DC to DC converter for driving various loads using control pulse circuitry. Applicants respectfully refer the Office to FIG. 2 of Gregorich, which illustrates control pulse circuitry 7 in detail (as noted at col. 5, lines 4-5 of Gregorich). As illustrated in FIG. 2, control pulse circuitry 7 includes several discrete circuits including potentiometer 62, resistors 43 and 46 and capacitors 36 and 44. Applicants note that control pulse circuitry 7 does include several discrete integrated circuits including error amplifier 67 having pins 5 and 6 (identified as standard integrated circuit MU 723 voltage regulator) and timer 35 (identified as standard integrated circuit NE 555) (see col. 5, lines 19-45). Because control pulse circuitry 7 includes several discrete integrated circuits (neither of which are PWM-ICs), control pulse circuitry 7 cannot be an integrated circuit itself as asserted in the Office Action. Still further, control pulse circuitry 7 cannot be used to suggest a PWM-IC as recited in claim 2.

Huh fails to compensate for the deficiencies of Kim and Gregorich because, as the Office Action notes at page 3, Huh fails to teach a PWM-IC.

Malik also fails to illustrate or describe all of the above-recited features because the Pulse Width Modulator 214 of Malik is driven by rectifier bridge 210 (see FIG. 2) and not directly by AC. Malik, consequently, fails to compensate for the deficiencies of Kim, Gregorich and Huh.

Accordingly, Applicants respectfully submit that independent claim 2 patentably distinguishes over Kim, Gregorich, Huh and Malik, and should be allowable for at least the above-mentioned reasons. Since similar features recited by independent claims 1, 10, and 18, with potentially differing scope and breadth, are not suggested or disclosed by Kim, Gregorich, Huh and Malik, the rejection should be withdrawn and claims 1, 10, and 18 also allowed.

Further, Applicants respectfully submit that claims 3-8, 9 and 11-16, which variously depend from independent claims 1, 2, 10, and 18, should be allowable for at least the same reasons as claims 1, 2, 10, and 18, as well as for the additional features recited therein.

Independent claim 1 recites at least the following:

driving an input of a pulse width modulation-integrated circuit (PWM-IC) of the power switching unit using the AC power when it is determined that provision of the DC power to the electronic machine is requested.

Kim, Gregorich, Huh and Malik taken separately or in combination, fail to suggest or disclose all of the above-recited features of independent claim 1.

The Office Action notes on page 3, item 1, that Huh fails to teach a PWM-IC. However, the Office Action proposed to modify Huh based on Gregorich, asserting that Gregorich “teaches a power supply system in which the integrated pulse circuitry is powered via the AC input lines and the AC power is converted in DC within the integrated circuit (via 45, figure 2 and see “control pulse circuitry (7), figure 1.”

The control pulse circuitry 7 of Gregorich, however, does not suggest or disclose either an integrated circuit or as PWC-IC as claimed, as Applicants have asserted above with respect to claim 2. Accordingly, the combination of Gregorich and Huh fails to disclose all of the above-recited features of independent claim 1.

The Office Action relies on Malik to teach performing power conversion using pulse width modulation. Pulse Width Modulator 214 of Malik, however, is driven by rectifier bridge 210 (see FIG. 2) and therefore fails to compensate for the deficiencies of Gregorich and Huh.

Kim fails to compensate for the deficiencies of Huh, Gregorich and Malik because, as the Office Action notes at page 7, Kim “teaches the PWM-IC powered from the output of the DC rectifier and not from the AC power source.”

Insufficient Reason to Combine Articulated

Applicants respectfully submit that the rejection fails to establish a prima facie case of obviousness. To establish a prima facie case of obviousness: 1) there must be some suggestion or reason to combine the references, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art; 2) there must be a reasonable expectation of success; and 3) the references must either teach or suggest all the claim limitations or the Office must provide a rationale as to why the differences between the claimed invention and the prior art are obvious. MPEP 2141.

Here, no citation to the prior art has been offered as providing a suggestion or reason to modify Huh and Gregorich, nor does the Office Action provide evidence demonstrating an implicit reason to modify the documents. In *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 127 SCt 1727, 167 LEd2d 705 (U.S. 2007), the U.S. Supreme Court held that in determining obviousness, it is necessary “to determine whether there was an apparent reason to combine the known elements in the fashion claimed” *KSR*, slip op. 14, 82 USPQ2d at 1396. Further, “there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR* at 1396, quoting *In re Kahn*. With respect to the rejection of claim 1, the reasoning provided in the Office Action for combining Huh and Gregorich states:

“...it would have been obvious to one of ordinary skill in the art at the time the invention was made to power the integrated circuit of Huh via the AC supply line and convert the power within the integrated circuit, as taught by Gregorich. The motivation would have been to increase reliability and flexibility of the system by having a rectifier circuit solely dedicated to the pulse circuitry.”

Applicants assert that the cited rationale for combining Huh and Gregorich is merely a conclusion and therefore fails to meet the standard articulated by the Supreme Court in *KSR International Co. v. Teleflex Inc.* Moreover, Applicants respectfully submit that, because the rationale for combining Huh and Gregorich is taken from Applicants’ own application, this amounts to an improper hindsight reconstruction of the present invention.

The Office Action asserts that the motivation to combine Huh and Gregorich would have been to increase reliability and flexibility of the system by having a rectifier circuit solely dedicated to the pulse circuit. However, the Office Action fails to indicate where Gregorich teaches that such a dedicated rectifier circuit increases reliability. The Office appears to be taking Official Notice of such an increase in reliability. Applicants respectfully traverse the Official Notice and demand authority for the statement. Applicants specifically point out the following errors in the Office Action.

First, the Office Action uses common knowledge as the principal evidence for the rejection. As explained in M.P.E.P. § 2144.03(A):

Any facts so noticed should . . . serve only to “fill in the gaps” in an insubstantial manner which might exist in the evidentiary showing made by the Examiner to support a particular ground of rejection. It is never appropriate to rely solely on common knowledge in the art without evidentiary support in the record as the principal evidence upon which a rejection was based.

Second, the noticed facts are not considered to be common knowledge or well-known in

the art. In this case, the limitation is not of notorious character or capable of instant and unquestionable demonstration as being well-known. Instead, the features are unique to the claimed invention. See M.P.E.P. § 2144.03(A) ("It would not be appropriate for the examiner to take official notice of facts without citing a prior art reference where the facts asserted to be well known are not capable of instant and unquestionable demonstration as being well-known.").

Third, there is no evidence supporting the assertion. See M.P.E.P. § 2144.03(C) ("If Applicant challenges a factual assertion as not properly officially noticed or not properly based upon common knowledge, the Examiner must support the finding with adequate evidence").

Fourth, it appears that the rejection is based, at least in part, on personal knowledge. 37 C.F.R. § 1.104(d)(2) requires such an assertion to be supported with an affidavit when called for by the Applicant. Applicants therefore respectfully request support for the assertion with an affidavit.

Accordingly, one skilled in the art would not have had a reason to combine the teachings of Huh with those of Gregorich, and the rejection under 103(a) is improper. Therefore, Applicants respectfully request any future rejection provide articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. Further, any subsequent Office Action should be made non-final to give Applicant an opportunity to review the Office's position as to these arguments and to clarify the record for appeal.

CONCLUSION:

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

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If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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